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Next Meeting
Sunday, December 14th at 2pm
Theme: Ask Us

AUG meetings are held at Victoria College, Burwood Campus
in Lecture Theatre 2.   Melways map 61 reference B5.

AMIGA™ *Users Group*

P.O. Box 109, North Balwyn, Victoria, 3104

Amiga Users Group

The **Amiga Users Group** is a non-profit, self-help group, made up of people interested in the Amiga computer and related topics.

Club Meetings

Club meetings are held at 2pm on the second Sunday of each month at Victoria College, Burwood Campus, in Lecture Theatre 2.

Due to Christmas and a vote at the last meeting, there will be no formal January meeting. Instead, we will have some form of social outing, probably a barbeque. Come to the December meeting and help us decide. After the December meeting, our next real meeting will be **Sunday February 8th, 1987.**

Production Credits

This month's **Amiga Workbench** was edited by Peter Jetson. Equipment and software used was: TurboDOS S-100 computer, Diablo 630 printer, Gemini 10x printer, Wordstar and Fancy Font. Now that Desktop Publishing software for the Amiga is becoming available, we might soon be able to do the whole newsletter on an Amiga.

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Contributions

Articles, papers, letters, drawings and cartoons are actively sought for publication in **Amiga Workbench**. It would be appreciated if contributions were submitted on disk, since that means they don't have to be re-typed! We have access to a wide range of computers, so we should be able to accept almost any type of disk, but Amiga disks are certainly the easiest. Absolute deadline for articles is the last weekend of the month before the cover date. Contributions can be sent to:

The Editor, AUG, PO Box 109, North Balwyn, 3104

AUG Users Group Disks

Disks from the **Amiga Users Group** Library are available on quality 3.5" disks for $10 each including postage on AUG supplied disks, or $2 each on your own disks. The group currently holds 40 public domain volumes, sourced from the USA, with more on the way each month.

Member's Discounts

The **Amiga Users Group** is currently negotiating discounts for its members on hardware, software and books. Members will be notified when negotiations are complete.

Currently, **Technical Books** in Swanston Street in the city offers **AUG** members a 10% discount on computer related books, as does **McGills** in Elizabeth Street. Just show your membership card. Although we have no formal arrangements with other companies yet, most seem willing to offer a discount to AUG members. It always pays to ask!

Membership and Subscriptions

Membership of the **Amiga Users Group** is available for an annual fee of $20. To become a member of AUG, fill in the membership form in this issue (or a photocopy of it), and send it with a cheque for $20 to:

Amiga Users Group, PO Box 109, North Balwyn, 3104

Amiga Users Group Committee

John Holland	(Co-ordinator)	348 1358	Carlton
Bob Scarfe	(Vice Co-ordinator)	376 4143	Kensington
Ron Wail	(Meeting chairman)	878 8428	Blackburn
Eric Salter	(Secretary)	861 9117	Kew
Paul Radford	(Treasurer)	663 3951	BH only
Neil Murray	(Membership)	792 9666	Dandenong
Stephen Thomas	(Membership)	830 5783	Canterbury
Peter Jetson	(Newsletter editor)	762 1386	Boronia
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Jo Santamaria	(Assoc editor)	836 9129	Canterbury
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Mike Creek	(Librarian- software)	878 9039	Blackburn
Bohdan Ferens	(Purchasing)	792 1138	Dandenong
Justin Somers	(Without portfolio)	553 0379	Moorabbin

When phoning committee members, please try to be a bit considerate and not call at meal-times, late at night, or during popular TV programs. If you only have a general query, try to ring the member who lives closest to you.

AMIGA WINDOWS   dwn
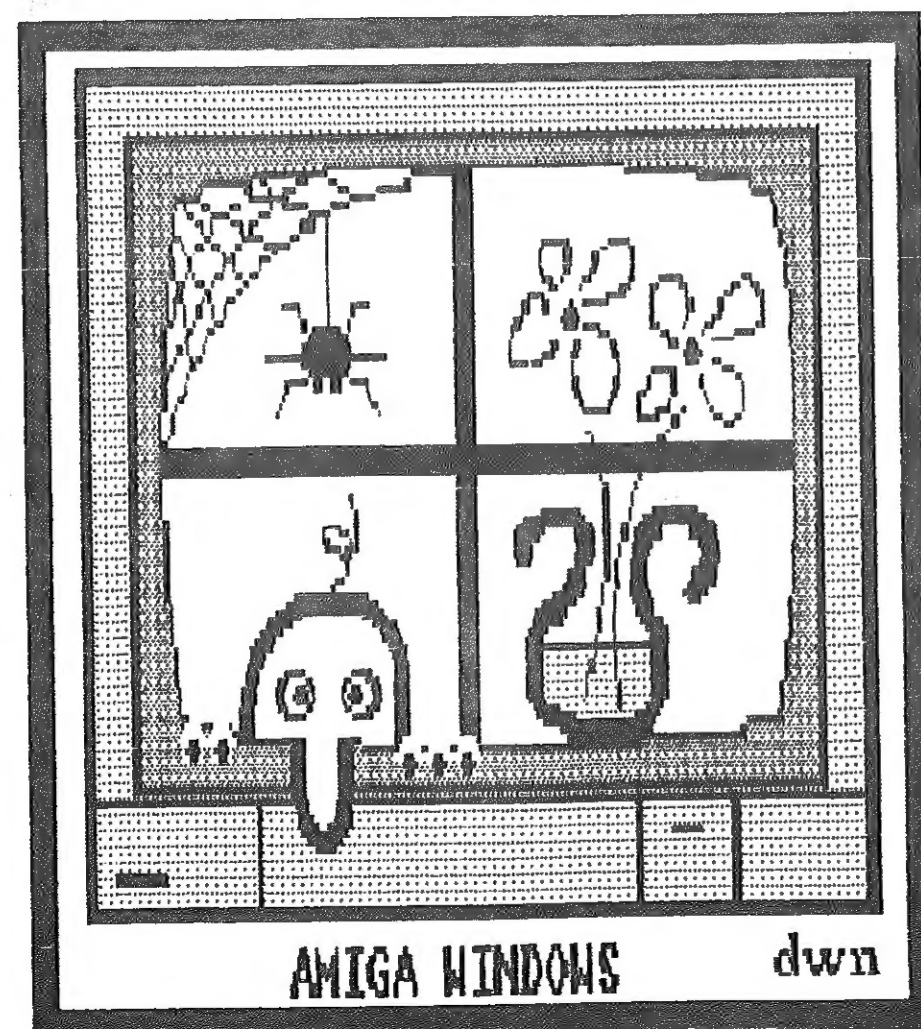
Basic Truths

BASIC seems to be an offensive language.

It's like if you use Basic you can be charged with 'using an offensive language'. Go directly to jail, do not pass Gosub.

No sooner do we come to terms with 'nested loops', 'next without for' and 'syntax error' than we are slightly encouraged and decide to read further, only to discover that BASIC stands for Beginners All-purpose Symbolic Instruction Code. Beginners???? How dare they! Regardless of the intellectual snobbery of the C programmers, BASIC is by no means a beginners language. I think it should be Better And Simpler Interaction with Computers.

Consider this analogy- Music has been written for centuries; musical notation is, in a sense, a language. If an individual were able to design and build synthesisers as well as play them, that individual's understanding of notation would be different to a violin player's understanding of the same notation. For example 'A' for the violinist is a physical location on the fretboard, regardless of whether they know it to vibrate 440 times per second. For the synth whiz, 'A' IS 440. Not only that, it is 'oscillator #1 at 1.27 mW with envelope 0674 set at 12V D.C. and nanowebers at...' --you get the point. If music notation had not already been in existance, (as, recently, computers were not in existence) we would let the synth player create the system for writing music. After all, the violinist saying "well it's just here on the string" doesn't sound as impressive as the sort of heavy stuff the synth player would come up with. Imagine if both these people were competing to sell THEIR notation system to the Government and Business....who would win?   Right?

The point I am trying to make is that the most complicated and impressive-sounding language is not necessarily the best.

To go back to music, Joan Sutherland and I could both sing from the same score. Same 'language',-- different users, different effect! It's the same with Basic, in the hands of an expert, it's an expert language.

I don't mean to put anybody off from learning and using other languages, go ahead and learn them all. (While you're at it, maybe you could arrange universal and lasting peace, a cure for cancer and immortality for all--after learning some languages, these should be a snap!) My aim is to stop the 'bad-mouthing' of Basic and allow those who use it (like me) to come out of the closet, hold their heads up high and proudly say "I use Basic and I'm glad I do". There, doesn't that feel better?

For those who would like to get into Basic but don't have the faintest idea how, we are running a workshop (that means you have to bring your Amiga if you have one, otherwise bring any computer) to explain the basics of Basic. If you would like to participate in this, then give me a call on (03) 348-1358 and leave your name and number on the answering machine. (When it says "wait for the beep" really, it means WAIT.) I will call you back with details of when and where. This workshop is NOT advanced Basic. It will be held under plain brown wrapper and the names of the participants will never be revealed. It is absolutely, entirely and only, an Introduction to Basic.

If there are not enough people to entirely fill Dallas Brookes Hall, we will still have something; maybe we can gather in small groups in various areas at different peoples houses.

AmigaBasic is pretty good and has many features not present in other forms of Basic so if you intend to bring another type of machine, let me know in case I have to read up on the particular Basic your machine supports.

For the advanced Basic programmers, rest assured we will have workshops for you as soon as we can find someone foolhardy enough to face your questions.

There will be some other workshops coming up. They will include:

WHAT IS THIS CLI THING AND DO I HAVE TO MARRY IT?

THE MAN I LOVE PROGRAMMES IN C, CAN WE TALK ABOUT IT?

MY AUG DISKS WON'T TALK TO ME, IS IT SOMETHING I SAID?

I'LL TALK TO YOUR MODEM IF YOU'LL TALK TO MINE.

I should make the point that these workshops are just that. Workshops. We have given (at committee meetings) much thought to training courses. Our main thrust has been to provide a complete and comprehensive lecture course on various subjects. It is now my belief that this approach will not work.

It is too hard (in our part-time capacity) to come up with a complete lecture to satisfy all needs. What will work, is the sort of course where people have their own machines, work through the examples and then ask questions resulting from their own use. As various people have various questions, the course-leader can look over their shoulder and deal with each individual problem while the rest of the class are busy working out the examples and formulating their own questions. It is a matter of being interactive and solving problems where you can and asking for help where it is required.

By the way, let me tell you, once, I went to a Karate class and immediately hated it--I couldn't keep up. At the half-time break, the Instructor came to me and said "You know, the whole point of Karate is to do it for yourself. We aim to produce self-sufficient individuals, anything you do in this course you have to do for yourself. I can't help you and I won't". This so irritated me that I spent another five years in this guy's class! At the end, I found myself slightly self-sufficient.

I kinda feel that learning Basic (or anything else) is the same. If you want someone to explain it ALL to you, then simply, don't come to these workshops. If you feel that you are reasonably intelligent and self-sufficient but need a little bit of guidance, then call. If you feel a little embarrassed about not knowing anything about Basic, please call, it's YOU we want.

Call me, and enrol.

-- John Hollands

Merry Christmas from AUG!

Public Domain Software Update

This month, we have 5 new volumes from the Fred Fish Freely Distributable Software Library. Previously, we have not been calling these disks Fish Disks, but we've had to change because we'll soon have the Amicus Public Domain disks, hopefully before the December meeting.

So, what's here? If you are into the board game Othello (sometimes called Reversi, since Othello is a brand name), you'll have to check out the version on disk 38. It plays a pretty mean game, and the voice option makes losing almost fun! Also on disk 38 is replacement for the AmigaDOS STATUS command that presents you with far more detail. On disk 40, you'll find an on-line AmigaDOS manual which can be run from the CLI or Workbench. Disk 40 also gives you A spelling-checker program, an asteroids video game, the ARC program (needed for some BBS downloading), a machine monitor for "hackers" and an update of BLINK, the ALINK replacement. I haven't yet worked out how to make BLINK work with printer drivers. If you are writing AmigaDOS drivers and handlers, then you should get disks 38 and 39 for sample code. Disk 36 has an updated terminal program, vt100, which I'm using right now to enter this article. Also on the disk is an updated C-shell and menu clock. For the AI-inclined, disk 37 contains an implementation of Little Smalltalk.

Finally, some editorial. Public Domain Software is NOT one-way only. How about some contributions from AUG members? It'd look really nice to get an All-Australian disk back from the USA. Programmers here are at least as good as those in America. So, how about it?

Fish Disk #36
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Acp	- A copy program with filename expansion and argument interpretation like the unix cp.
Clock	- Updated version of the clock program released on disk number 15. Adds seconds display, free memory display, and faster updates.
Csh	- Csh like alternative to the CLI, with changes to compile under Manx with 16-bit ints. Has alias, builtin functions like "dir" for speed, history, named variables, command re-execution with substitution, etc. Version 2.01A.
DietAid	- Diet planning aid to allow the user to compile lists of ingredients (recipes) and automatically compute calorie totals, etc.
Echo	- An improved echo command with options to control color, screen placement of text, etc.
FixHunk	- A program to modify executable files to allow them to run in external memory. It forces all DATA and BSS hunks in the file to be loaded into CHIP memory. CODE hunks will still load into FAST ram if available. Version 1.2a.
Fm	- File mapper program. Uses trackdisk device to grab sectors and traverse the filesystem to find out what sectors a particular file occupies.
KickBench	- Instructions and programs for creating and using a combined KickStart and WorkBench disk, so only one disk is need to reboot. Allows the system to reboot unattended after a power failure. Requires disked from developer's disk.

Lex	- A program (not to be confused with the Unix lex program which is a lexical analyzer generator) which computes various readability metrics for text files. Computes Gunning-Fog, Flesh, and Kincaid indices.
TunnelVision	- Another fine ABasiC game from David Addison. This is a maze game with a 3-D perspective view from inside the maze.
Vc	- Visicalc-like spreadsheet calculator program.
Vt100	- Version 2.2 of Dave's vt100 emulator program including Xmodem and Kermit file transfer protocols.
YaBoing	- A game program demonstrating hardware sprite usage, including collision detection.

Fish Disk #37
****

This disk is a port of Timothy Budd's Little Smalltalk system, done by Bill Kinnersley of Washington State University.

Fish Disk #38
****

CSquared	- Implementation of Circle Squared algorithm from Sept '86 Scientific American "Computer Recreations" column. Produces wildly colorful but mathematically precise patterns.
FixObj	- Strip extraneous garbage off the end of object files transfered with xmodem. Does not require preknowledge of actual file length, uses knowledge of Amiga file structure. Version 1.1 (update to copy on disk #10).
Handler	- An example that implements an AmigaDos Handler (device) in non-BCPL format.
Hp-10c	- Program that mimics an HP-10C (Hewlett Packard calculator), written in TDI Modula2.
IffDump	- Two programs for manipulating IFF files. IFFENCODE grabs an active screen and writes it to a file in IFF format. IFFDUMP decodes information in arbitrary IFF files and prints it in a human readable form.
Jsh	- A simple command line interpreter drawing on features from the BSD C shell.
NewStat	- Replacement program for the AmigaDOS STATUS command. Prints task number, priority, address of process, command line being executed, current directory, etc.
Reversi	- Program to play reversi game. Version 6.1.
UUdecode	- Programs to encode/decode binary files for transmittal via mail, or other text-only methods. Binary file is expanded by approximately 35% for transmittal.
Vdraw	- Drawing program, based on freedraw, but now transformed and enhanced beyond recognition. This is version 1.14.
VoiceFiler	- Voice filer program for Yamaha DX series synthesizers. Voices are transfered to and from the Amiga over MIDI.
Window	- Sample program which shows how to create a DOS window in a custom screen.

Fish Disk #39
****

AnsiEcho	- Some commands written in assembler. Includes an echo command, touch, list, cls (clear screen), and ask (wait for user input).
Display	- Graphics display program to display HAM images from a ray tracing program. Includes some really spectacular pictures.
Driver	- Demo device driver in source. Functions as a RAM disk for demonstration purposes.
Xlisp	- Small lisp type interpreter, binary only (source to older version was on disk #18). Version 1.7.

Fish Disk #40
****

|	
Ahost	- Amiga terminal emulator featuring ANSI terminal emulation, file transfer with CompuServe's B-Protocol, Kermit, and Xmodem, user definable function keys, script language, RLE graphics and a special conference mode for use with CIS. Version 0.9.
AmigaMonitor	- Dynamically display the state of the machine, including open files, active tasks, resources, device states, interrupts, libraries, ports, etc. Display window into memory. Version 0.21.
Arc	- The ubiquitous compressing archiver program that has become the de facto standard for distributing binaries and multi-file postings on most BBS's. This is Amiga version 0.16, a port of arc version v5.0.
AreaCode	- Program which decodes area codes into state and locality. Version 1.5.
Blink	- A linker written as a replacement for Alink. Fully Alink compatible and supports many additional options not found in Alink. Also is much faster than Alink and produces smaller executable files. Version 6.5.
Cosmo	- An "asteriods" clone.
Dg210	- Data General D-210 Terminal emulator.
DirUtil	- Nice little program to wander around directory tree using a windowing interface and performing various operations on files. Version 1.4.
DOSHelper	- Windowing program to print help information about various dos commands. Version 1.60.
PagePrint	- Prints text files with date/time header, page breaks, and line numbers.
PopCLI	- Provides a simple way of starting another CLI at any time without having to load workbench or exit whatever program you may be using. Also has a builtin screen saver mode that automatically blanks the Amiga console screen when there has been no input for a specified period of time. Version II, which now includes source.
SpriteEd	- Lets you simultaneously edit two sprite pairs to form a double wide sprite image.
X-Spell	- A spelling checker to proofread text files and then allow you to move through the document, deciding what to do with the misspelled words.

Write for the Newsletter

You read the heading- go to it! As I explained at the last meeting, if all AUG members wrote one article each, we'd have enough to fill the next eighty newsletters! Of course, that would only happen if **everyone** wrote an article, and at the moment, that is not happening. We seem to have about 2 or 3 regular authors, who are rapidly running out of things to write about.

It's not that difficult, really. Have you purchased some new software or hardware for your Amiga lately? Well, why not tell people about it. Review it, point out the good and bad points. Perhaps you are sorry you bought it. If you write and tell us, you'll be warning other people away from it. Maybe the purchase exceeded your expectations. Again, tell everyone else about it, and we'll all rush out to buy it too!

Many of you have had your machines for quite some time now. How about a critical look at your machine. Point out all the warts, marvel over the new things you've learned about it, tell us what you still like about it.

How about a list of what software we'd like to see for the Amiga. This wouldn't have to be an article, we could do a compilation of ideas from the group. Just jot down a few lines, and we'll see where that heads us.

Anyway, the point is to write! Something, anything. Just write.
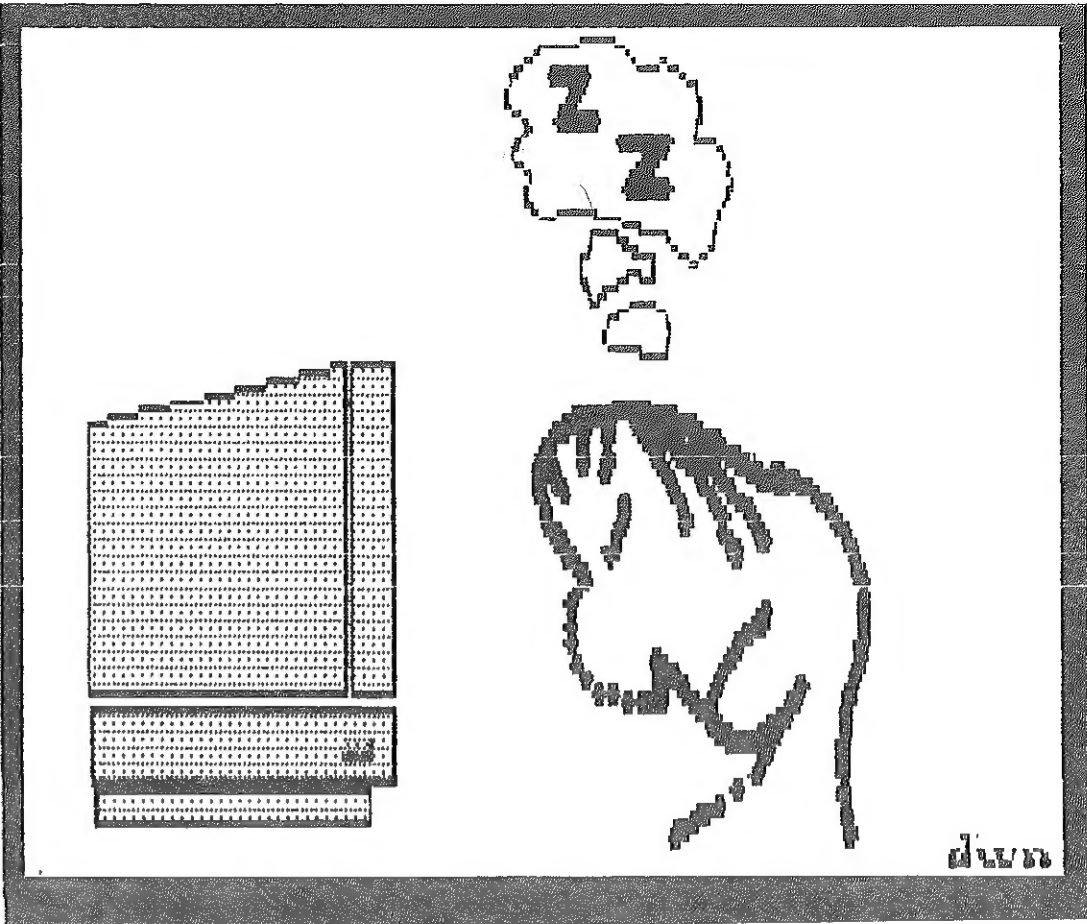
January BBQ Meeting

At the last meeting, members were overwhelmingly in favour of a non-formal January meeting. Instead of sitting in a stuffy hall, listening to stuffy speakers, we are going to have a bring-your-own everything barbeque, probably at Studley Park, near the boat-house. No computers will be allowed, although we probably won't be able to stop you from talking about them. We'll provide a few dozen bottles of soft-drink, but you'll have to bring your own food and other stuff. Bring the whole family, bring your non-Amiga owner friends. Relax your brain, and have fun. At the December meeting, we'll decide the exact when-and-where of the social event of the year. Make sure you come!

Amiga Users Group Library

Since we have such a large membership, and a relatively small library, it is sometimes hard to see that we have a library at all. Books seem to move in and out of the Library desk so fast, they're nothing but a blur.

So, we set our librarians the task of slowing the flow down enough so we could at least write down the titles available. Here's the list:

Books

Advanced Amiga Basic (+ disk, two copies)
AmigaDOS DOS Manual
Amiga Hardware Reference Manual
Amiga Programmers Handbook
MC68000 16-Bit Microprocessor Users Manual
MC68000 16-/32-Bit Microprocessor
Programming the 68000

Magazines

Amazing Computing
    Vol 1, Nos. 1, 2, 3, 4, 5, 6, 7
The Amigan Apprentice & Journeyman
    Vol 1, Nos. 1, 2, 3, 4
Amiga Project (Ami Project)
    Vol 1, Nos. 1, 4
AmigaWorld
    Vol 1, No 2
    Vol 2, Nos. 1, 2, 3, 4, 5, 6
Compute!
    Vol 8, Nos 1, 2
The Transactor
    Vol 6, Nos 6
(Soon to come: Kickstart, from the UK)

Newsletters

Amiga Workbench
    All issues, of course!
The National Amiga Users Group (New York)
    Vol 1, Nos. 1, 2, 3, 4, 5

At the last committee meeting, we decided to allocate the library some more money for book purchases. If you have seen an interesting book, or have some ideas on items for the library, please tell us.

Get Help at the December Meeting

Our December meeting will be dedicated to helping those people who still haven't got the hang of their Amigas. We hope the have another talk on the CLI and how to use it, but unless something newsworthy happens, or someone gets something they'd like to show off, we won't be having a demonstration at the meeting. Instead, we'd like members to bring their problems, and we'll try to solve them.

Make sure you bring your machine, we want to emphasise the practical side of things. Its usually much easier to show you how than to tell you how.

If you are having trouble with something Amigan, or can't seem to understand a finer point of Amigese, then the December meeting is just for you.

Live in the North-West?

AUG member **Joe Rizzo** lives in Tullamarine, and wants to contact any Amiga owners in the North-Western suburbs.

            Contact: Joe Rizzo
Geographic Areas: Cities of Keilor, Broadmeadows, Coburg,
                    Essendon
          Phone: 357 1577 or 338 4703
                    (If unavailable, leave a message)

A Go-Faster Upgrade

For some time now, there has been a very simple upgrade that owners of IBM PCs and compatibles could make to their system to gain a slight increase in speed. By simply unplugging their 8088 processor chip and replacing it with an NEC V20 processor, they could speed up most programs by about 5 to 10%. Since disk IO speed is limited by hardware, not the processor, some programs gave little or no increase in performance. Other programs, however, gave really dramatic speed increases, depending on the actual machine code instructions used.

The V20 runs faster because when NEC designed the chip, they found ways to increase the execution speed of certain machine code instructions over the Intel 8088. Thus, replacing the 8088 with a V20 was a simple way of screwing a bit more speed out of an IBM.

Now, all this would be little more than something to file away for your next game of Trivial Pursuit, except that there is a similar upgrade available for your Amiga: the Motorola MC68010 processor. Astute readers will realise that we ran an article in August AUG newsletter giving details on the how-to of the upgrade. At the time, we lamented the fact that we couldn't find a local distributor who had the devices in stock.

Well, that has now changed, and thanks to our purchasing officer, Drac, several AUG members have upgraded their Amigas. Drac has been able to obtain and sell the MC68010 processors for $45, but they are in short supply. Obviously, you'd have to fit the chip yourself, which, by the way, will void your warranty. Contact Drac directly for more information.

So, how well does the upgrade perform? I used the public domain **Dhrystone** benchmark program from Fish Disk #1 to perform a before-and-after test on my Amiga. The new 68010 was only about 4 to 5% faster on the Dhrystone test. That didn't please me much at all, although all the literature I had read on the subject seemed to suggest such a result. Since the October AUG meeting was the next day, I decided to take my machine along and run it in a side-by-side comparison with an un-converted machine.

Eric Salter and I set out machines up running Thomas Wilcox's Mandelbrot Explorer disk (Fish Disk #21) while the meeting was on. To my delight, my upgraded machine was about 25% faster! Now **that** was a pleasing result!

So, is the upgrade worthwhile? If you use your machine for word-processing, interactive, or disk-based programs, you won't see the speed increase at all. If, on the other hand, your Amiga spends most of its time doing heavy calculations (spreadsheets or Mandelbrots), I think that the $45 is well spent.

For the technically-minded, here is an adaption of a Motorola application note on the subject.

Advantages of Upgrading an MC68000 to an MC68010

(Adapted from M68000 Micro Minutes MM-444-02 (C) Motorola)

There are several ways a system's performance can be upgraded. Some are software related, such as lowering operating system overhead, obtaining better quality language compilers, wisely designing application programs, and coding applications more efficiently. Others are hardware related, such as adding memory, improving I/O channel data rates, increasing mass storage speed and capacity, reducing memory access times, and upgrading the system processor's clock frequency.

When considering an MC68000 system upgrade to higher performance, the obvious thought is to redesign for a higher frequency MC68000. For example, a current MC68000 system running at 8 MHz could be redesigned to run at 10 MHz, thereby increasing system throughput by 25%. The "obvious solution", however, is not necessarily the most appropriate or cost-effective once several factors are taken into consideration and alternative solutions examined.

The speed-up of a system clock will not be effective unless the system's memory access time is also improved. The performance of the MC68000 is strictly limited by the bus speed, and if no improvement in memory speeds are available, then an increase in system clock speed will lead to negligible improvement in the overall result. The bottom line is that in order to be effective, a higher speed processor must run with fewer or the same number of "wait states". This normally requires a redesign of the memory subsystem to improve the memory access time.

Memory access times are not the only difficulty encountered with the faster clock speeds. In a similar vein, the design of an efficient 10 MHz system is more difficult than that of a 8 MHz system, since more careful attention must be paid to the physical design of the board in order to account for the higher frequency signals present, and the increased sensitivity to transient phenomena.

A "painless" alternative means to EFFECTIVELY increase system performance is to upgrade to the MC68010 processor. The MC68010 at equal clock frequencies will run from 8% to 50% faster than an MC68000 without any user code changes. The speed-ups are due to several microcode enhancements: many 32-bit operations, conditional branches, multiply, divide and other miscellaneous instructions run faster. Systems which use memory management can have dramatic improvements with slight operating system changes utilizing a few new MC68010 instructions such as "Move to/from Address Space" (MOVES).

Systems may see a significant improvement if they heavily utilize multiply, divide and looping operations. Loops run from 23% to 80% faster once the microcode sets up the automatic "loop mode". Such loops benefit particular functions such as block moves, character matching and general string manipulation operations, and multiple-precision binary and packed BCD arithmetic. The new MC68010 multiply is 14 clocks faster, and the divide is 32 clocks faster than the MC68000. Programs utilizing (or with the potential of utilizing) such operations can obtain an increase in performance easily exceeding 10%.

An additional "plus" of the MC68010 is the provision of a clear path for the upgrade of current operating systems to full virtual operating systems utilizing the sophisticated virtual memory processing capabilities of the MC68010 (which is the same virtual environment offered by the 32-bit MC68020).

Since the MC68010 is pin-for-pin compatible with the MC68000, *NO* hardware redesign is necessary. Only very minor software changes may have to be made depending on operating system conventions. The MC68010 differs from the MC68000 in that: 1) a generic "vector word" has been added to the MC68010 stack frame; and 2) the MC68000's "MOVE SR,ea" has been made a privileged operation.

Easy software solutions for these two minor differences are: 1) any routines which build exception stacks (e.g. those which dispatch a routine via an RTE instruction) are modified to account for the four word stack frame (the MC68000 uses a three word stack frame); and 2) an exception handler is added to provide for privilege violations generated by the execution of the "MOVE SR,ea" instructions in the USER state. Major operating systems have been ported from the MC68000 to the MC68010 in less than a single day, reflecting the trivial changes required in the supervisory level code.

The bottom line is, by upgrading an MC68000 system to an MC68010 system, an increase in system performance is obtained which is equal to that which a system redesign from 8 MHz to 10 MHz would provide, but with significantly less design cost and effort. The "speed-only" upgrade could only achieve, at best, a 25% system improvement, and only if the system memory access time is significantly improved. The MC68010 upgrade offers from 8% to 50% improvement. Note that the speed gained by changing to the MC68010 is achieved with NO change in memory speeds, NO board redesign, and NO higher speed parts installed in the system as would be required to upgrade a system to a 10 MHz part.

1986 SALES FIGURES   dwn

"I suppose you think that's funny?!"
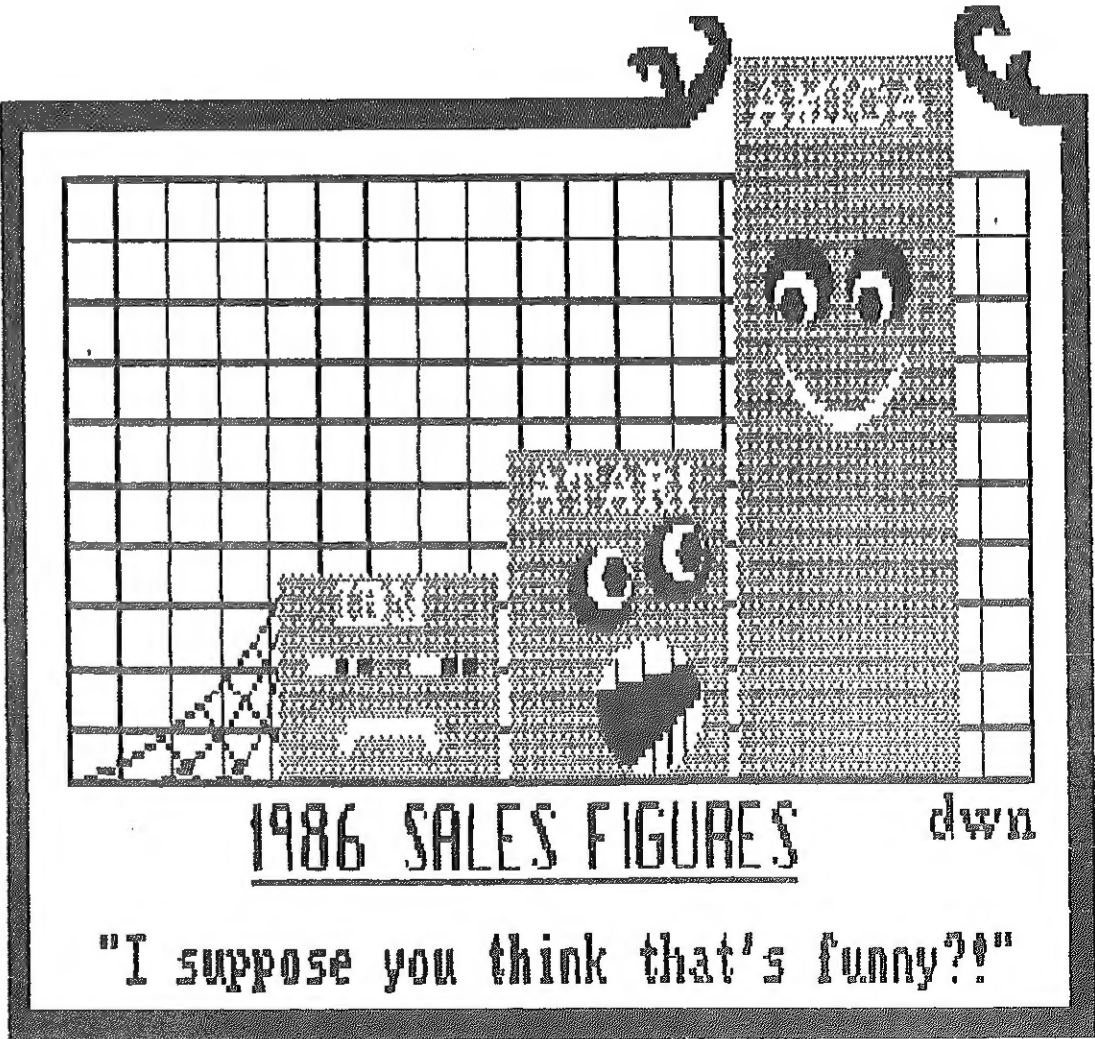
Introduction to the Amiga Operating System - AmigaDOS

The Amiga Users Group has grown in leaps and bounds this year. We come from different backgrounds when it comes to knowledge about computers; Some of us are beginners who have just discovered the exciting world of computing and are eager to learn more, others are knowledgeable in areas of computer hardware or software. It seems that for most of those who do know, the task of sharing that knowledge is both difficult, as most of us are not skilled teachers, and, for some of us, a chore that we would rather not do. I am guilty of both. I would like to try to explain the operating system of the Amiga in simple terms that, hopefully, will not go over anyone's head. I am also hoping that this article will serve as a basis for a series of tutorials and a forum for questions.

An operating system is a program which a computer runs, just like any other program, however this program has the task of integrating all the resources of a computer system together in a unified and predictable way. Another aspect of an operating system is that it is the interface between your program and the rest of the computer and the outside world. For example, if your program wants to input some piece of information [In BASIC: INPUT A$], your program will send a request to the operating system for input from say, a keyboard. Now, exactly how the operating system has to do this is unimportant to you or your program. Suffice it to say that your program wants input and it doesn't care how it's done. The operating system, when it receives the request, knows about how the computer system is made and takes care of any idiosyncrasies that the hardware may throw at it. What you see is that when you type on the keyboard, your program receives it. This is the K.I.S.S. or keep it simple stupid, principle.

An operating system deals (at least good ones do) with files. A file is just a source of information, or data, which is known by a particular name. For example, your program may be stored on disk under the name "MYPROGRAM.BAS". This program is stored on disk as a file with the above name and although it may be a different length, in terms of how much room it takes up on the disk, from another file, "HELLO.BAS", you can do things to them (e.g. copying, deleting or running) by reference to their name only. You don't have to know how big they are or where physically on the disk they are stored and this frees us from having to know much about them, other than that this group of data is known as "MYPROGRAM.BAS".

Now it is easy to see how a program stored on disk can be a file; It is just like a filing system, you put things away and take them out when you want them. It takes a little more thought to see how a printer or keyboard can be a file, but to the operating system, they are. They are special types of files called devices, but files nevertheless. You will remember what we said about files as just being sources of information, well, you can send information to a file, (e.g., saving a program on disk) just as you can send information to a printer, or get information from a keyboard. Now we can say that the operating system allows us to think in abstract terms about keyboards, screens, printers and programs as just files with names. When we want our program to input from the keyboard, we read the keyboard file, or when sending information to the printer, we send the information to the printer file. Some of these concepts may be new to you and the programming language BASIC, hides these concepts from you by doing the work behind the scenes, but every time your BASIC program wants to read a response from the user, the BASIC interpreter, that is running your BASIC program, will send out a request to the operating system to

read from the keyboard file, when finished, will return to your program what was typed by the user on the keyboard.

AmigaDOS

AmigaDOS, or the Amiga's operating system, is similar to many operating systems on other computers. It frees the programmer from having to know the hardware of the computer intimately and allows us to refer to hardware, like keyboards, with names, and this is enough! I'm assuming here that you know the difference between hardware and software. If you don't, I suggest you corner someone for a few hours and find out.

CLI verses Workbench

Terminology is confusing, and especially so the terminology of the Amiga computer system. This is because the Amiga is a very complex machine, more akin to larger minicomputers that your average Home computer or I.B.M. compatible, who's operating systems are simple and not intended for complex computing environments. Many people are confused about the difference between the CLI, or Command Line Interface, and Workbench, and where they fit in to the scheme of things inside the Amiga.

The Workbench, is the iconic, or graphic interface to the operating system. It is a program which lets the user see the AmigaDOS environment in pictures; Each file (with exceptions as we will see later) is represented by an Icon or picture. The word Icon comes from the Greek, eikon, meaning image. Icons are more than just images though; a concept from the Christian Church, an Icon embodies what it represents. Thus the icon of a file is in effect like a name, and is AmigaDOS's representation of that file. Thus, the Icon is the file (sort of). Now, Workbench allows the user to manipulate files graphically with interaction between the mouse and the icons. What is actually happening when you double click on a disk icon? Well, Workbench translates your mouse clicks into many AmigaDOS requests, resulting in that disk being searched for all files which have Icons, a sort of directory command. Workbench then displays a window with all the icons of drawers or files within it.

The CLI on the other hand, does not deal with icons. It too is a program, like Workbench, which translates what you type on the keyboard into AmigaDOS requests, which are then sent to AmigaDOS. It is more of a conventional interface between you and the operating system, and similar interfaces can be found on other computers. A similar interface is the CCP, or console command processor, in the CP/M operating system which is found on many popular computers. Whatever it is called, it allows you to type commands which you hope will cause things to happen, like running a program - which is basically all the CLI will let you do. It will look at what you have typed and then go and search for the program which you named (very powerful things these names), in the appropriate spot (usually a disk) and attempt to load that file into memory and run it. This of course translates into many AmigaDOS requests. So what does AmigaDOS do all this time?

AmigaDOS sits in your Amiga, looking after requests from programs for information from files. If your program wants information from a disk file, then it will send out its request to AmigaDOS, and AmigaDOS will attempt to satisfy the request. In the same way, the CLI and Workbench send out requests to AmigaDOS to make available to them the files that they want and do various things to them. Therefore, we can view both Workbench and the CLI as being stuck on, so to speak, to AmigaDOS, and interfacing the outside world to it,

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allowing us to use its power with simple clicks of mice or the striking of keys on the keyboard. Which one should I use or can you choose?

By default, the disk that comes with the Amiga, called Workbench, is configured to come up in the Workbench interface (confused?). The disk called "Workbench" has nothing to do with Workbench iconic interface, it is just confusing! As we said, Workbench is a program, which happens to be on the "Workbench" disk and when you run it, it gives you the iconic interface. The CLI is a program and is also on the "Workbench" disk. To run the CLI, you must click on the CLI icon in the system draw of the "Workbench" disk and a window will appear called NewCLI and a little "1>" prompt will appear. You can now type commands. If you come up in the CLI after putting your "Workbench" disk in the drive when you were told, then the Workbench interface is not active and you have to run it by typing: "loadwb". It is therefore possible to have one, both or (you can but it is useless) no interfaces running. As to which one you want to use, I suggest you use the CLI because only then will you grow to understand the power of the machine. You don't see its power if you are using Workbench because under Workbench, you only have access to the programs that have icons, and most don't on the "Workbench" disk.

The icons for a file live in a file of the same name but with ".info" on the end of the name. Here is wisdom! Do not assume that a disk that shows no Icons when you open it is empty, it probably isn't, it just has no ".info" files on it and therefore was never intended to be used under Workbench, but requires the CLI. MOST OF THE PUBLIC DOMAIN USER GROUP DISKS ARE LIKE THIS! So please don't re-format it and please think before you complain to us that it is blank. Don't laugh, it's not funny, people have in fact done this, and that attitude will not help others less knowledgeable learn about this marvelous machine.

Next month, I would like to continue with a CLI tutorial, looking at the various commands that are available and what they do. Any questions would be greatly appreciated as it gives the tutorial a focus and some relevance

-- Eric Salter

Membership Monologue

The November meeting was a good one for new members signed up, over thirty joined. That plus some applications that were misplaced will put us over the three hundred mark. Most of the members were referred by friends or dealers so knowledge of the club is spreading. Over the last few months I have been dealing with a number of interstate phone inquiries regarding the club and the Amiga in general that were the result of people phoning Commodore Sydney and being given the contact numbers of our group. Many of those inquirers have since become members, though a number have spoken of wanting to start small groups of their own. With this in mind I will repeat some information given last month.

Over the last month I have spoken to several members who wish to contact other members in their local area with a wish to start satellite groups or just get together to share information. My advice has been to send in a short article to the Editor, Peter Jetson, stating areas of interest, give a contact phone number (and preferred hours to call!) so interested members can get in touch.

Some members have asked for a copy of the membership list so they could contact other members in their local area. Unfortunately I had to deny this request since the membership list is restricted to the committee members and even then only if they have a need for it. Currently positions that have access;

- Membership, for resolving inquiries regarding who is and isn't in the club currently.

- Purchasing, as only members are allowed to buy items from the club

- Library, same reason as above.

- Editor, for generating mailing labels for the newsletter.

- Secretary, this position tends to get the majority of calls

The other committee members could obtain a list if needed but we discourage it as a rule (also you need a 132 column printer that can do compressed printing). The same applies for people after specific phone numbers & addresses. To assist I will take messages at the meeting or by phone and add them to my ramblings here. Decent hours please! between 19:00 & 22:00 weekdays, 13:00 & 22:00 weekends (Yes I sleep late).

If you have any queries regarding your membership, ie: not receiving your newsletter, no membership card or receipt please see me at the meeting and bring whatever information you can to support what you say. The most common queries are not getting a membership card or receipt for your money, this applies to mailed applications only since I donot clear the post office box, bring your newsletter along to a meeting and I'll issue a card and receipt. The other common query is not receiving a newsletter, this also applies to mailed applications usually and is due to the fact that the committee only meets twice a month so it may take up to two months to get on the mailing list if circumstances are wrong. In this case check to see if your cheque has been cashed and if no newsletter comes by the middle of the next month then obtain a copy of the cashed cheque for reference and we can chase it down. The cashed cheque copy from a bank is enough for the proof of payment and your application will be passed through the "system" again. For members who do not have the opportunity of seeing me at a meeting I suggest you contact me (see above for hours) and I will add you to a list I am compiling for a mailing of membership cards and/or receipts.

On a different track, the disk supplier has noted that we have bought over 2,600 diskettes (3.5" Dysan) which means a total of 2.3 gigabytes or 14,300 dollars spent buying them! Actually more than that number were bought but some of the earliest purchases were Nashua brand and done under a members private name until the club organized an account. The Fish disks alone mean 35 megabytes for the forty we have so far. Who said there was no software for the Amiga? Hard disk anyone?

A comment heard at the meeting: "If this (many members coming) keeps up we will have to move to a larger auditorium again." (Ed: We had 160 or so people at the last meeting!)

Anyone know of a cheap hall that can seat >200 people with room to setup machines???

-- Neil Murray

The Editor's View

Well, its nearly Christmas again. Only two weeks to go by the time you read this. So, what's new in AmigaLand? Well, I now have **SubLogic's Flight Simulator** for the Amiga. That probably means that I won't be getting much work done for a few weeks. I'm a bit disappointed to find that the graphics on the Amiga version are no better than the IBM version. Yeah, there are more colours, and more features, but still the same old chunky graphics and jerky movement. There seems to be some problem with using a joystick instead of the mouse, but I've only had it since last night, so it might be just my fault. The price is a bit on the high side too, at $135 (less with your Amiga Users Group Discount!). I got my copy from Tech Books, but they sold out almost as soon as they put the copies on the shelf.

There are rumours around about the impending release of **Kickstart and Workbench version 1.2**. One story says that Commodore Sydney has the master copies of the public release disks, but can't distribute them until they get the okay from head office overseas. Hopefully, AUG will be able to obtain the upgrade disks from Commodore for distribution, but even if we don't, you should be able to get them from your dealer. I haven't been able to find out exactly what comes with the upgrade, but since most of the changes are internal, or involve CLI commands, there probably won't be any upgrade to the manual. Since no CLI documentation came with the original machines, there is nothing to update. Pre-release versions of AmigaDOS 1.2 contained documentation files on disk explaining the changes, upgrades and new commands, but there is no reason to think those files will still be on the public release disks.

Ever heard of **GenLock**? Its a device that allows you to mix an external video signal with the output of your Amiga. This will allow you to do amazing things like adding animated characters to a videotape, titles, and all sorts of things. Well, we have some good news and bad news about GenLock. The bad news is that the Amiga GenLock from Commodore US, the one you've seen in the overseas mags, will not work with local Amigas. The good news is that we have some smart people in Australia, and one of these people has developed a quality GenLock that will work on **any** Amiga, be it version 1.1, 1.2, 1.3 or 1.4. People with very early Amigas will need to upgrade one of internal chips inside their machine. With a bit of luck, we'll have a GenLock at the December meeting, and a bit of a demonstration of it.

Have you ever wondered about the difference between the circulation figure on the front cover and the number of members we have? The answer is simple. We usually print about 100 extra copies each month, and about 60 or so of these go to Technical Books in the City for sale to non-members. As well as making a small amount of money for us, this is advertising, in that we reach people who may not have yet heard of us. Hopefully, some of the people who get the newsletter from Tech Books will go on to become members. The remainder of the extra newsletters usually get snatched up at the next AUG meeting by new members.

On the subject of new members and newsletters, many people have asked about back issues. Unfortunately, there are none available at the moment. We can't really afford to get more printed than we do already, so we've come up with another idea: an **Amiga Users Group Year Book**. The year book will contain a total reprint of all material we've published during the year, as well as a list of Public Domain software that is as up-to-date as possible. We haven't talked to the printer about it yet, so we don't have much of an idea of the cost. Perhaps I'll have a better idea by the December meeting.

While we're talking about money, I made a terrible mistake at the October meeting and the November newsletter about the cost of the Amiga Users Group T-Shirts. The price is $15, **not** $9. Sorry about that, but we only actually got orders for 5 T-Shirts, and printing a small run like that is **very** expensive. We had to order some extras so they would do them at all. The price for the windcheaters is correct at $25. Our purchasing officer is custodian of the garments at the moment, and here's his current stock list:

Windcheaters	T-Shirts
3 x size 22	1 x size 20
1 x size 20	2 x size 16
1 x size 16	

Drac also tells me that Peter and Paul Manser have left deposits for garments, but have yet to pick them up. Also, some committee members have yet to cough up their money. (Yes, John, that means **you!**)

With over 300 members, the Amiga Users Group is now probably the largest single-computer club in Australia, with the possible exception of the AUSOM (the Apple Users Society of Melbourne), and even they cover several different computers. Most other large groups are non-computer specific. I think the size of our group is something for us to be proud of.

There are still plenty of Amiga owners who aren't AUG members, though. Why should they join AUG? I can think of plenty of reasons, but I'll just mention one: **information**. We are a collection of Amiga owners, each with different backgrounds, different levels of knowledge, different ideas. As a group, we can tap our resources. We can help each other. In a group, you can probably someone else who has already solved the problems you have. If not, then you may be able to find someone with the knowledge to help you find the answers. If you aren't a member of the Amiga Users Group, then you are missing out on access to a valuable resource: other Amiga owners.

Geographic Survey of AUG Members

At the last meeting, I stuck a list similar to this on the wall, and it generated a lot of interest. Here is an updated list of suburbs with more than 2 members.

9 in Brighton	3 in Sunshine
7 in Geelong	3 in Upwey
7 in QLD	2 in Altona/Laverton
6 in Eltham	2 in Bayswater
6 in Glen Waverley	2 in Bendigo
6 in Hawthorn	2 in Castlemaine
5 in Bentleigh/Ormond	2 in Caulfield East/East Malvern
5 in Blackburn	2 in Clifton Hill
5 in Box Hill	2 in Cockatoo
5 in Brunswick	2 in Croydon
5 in Carlton	2 in Dandenong
5 in Clayton	2 in Eaglemont/Rosanna
5 in Hoppers Crossing/Werribee	2 in East Melbourne
5 in Mount Waverley	2 in Elwood
4 in Aspendale/Mordialloc/Parkdale	2 in Essendon
4 in Balwyn/Deepdene	2 in Ferntree Gully
4 in Boronia	2 in Fitzroy
4 in Cheltenham	2 in Footscray
4 in Doncaster	2 in Forest Hill/Nunawading
4 in Frankston	2 in Glenroy
4 in Kew	2 in Greythorn/North Balwyn
4 in Richmond	2 in Ivanhoe
3 in Albanvale/St Albans	2 in Keilor
3 in Armadale	2 in Launching Place
3 in Balaclava	2 in Malvern
3 in Beaumaris	2 in Mentone/Parkdale
3 in Bulleen	2 in Moonee Ponds
3 in Canterbury	2 in Mount Eliza
3 in Carnegie/Murrumbeena	2 in Mulgrave
3 in Caulfield	2 in Narre Warren
3 in Chelsea/Edithvale	2 in Pascoe Vale
3 in Coburg	2 in Pearcedale/Somerville
3 in East Burwood	2 in Port Melbourne
3 in Greensborough	2 in Prahran
3 in Macleod	2 in Ringwood
3 in Melbourne	2 in Surrey Hills
3 in NSW	2 in Tullamarine
3 in South Yarra	2 in Wantirna
3 in St Kilda	

As mentioned in Neil's column, AUG will not provide the membership list, names and addresses or other details to any person. If you want to contact other members in your area, we'll be only too happy to put something in the newsletter.

ISO and ANSI Printer Commands

In the table below, **esc** is 1Bh or 27 decimal. In all cases, the rest of the command is sent in ascii. For example, this sequence will turn condensed characters on:

```
open "prt:" for output as #1
print #1, chr$(27); "[4w"
close #1
```

Note that these commands can only be sent to the PRT: device, Basic eats control characters sent to the printer via LPRINT.

Initialise	esc#1
Reset	esc[c
Normal pitch	esc[0w
Boldface on	esc[1m
Boldface off	esc[22m
Condensed print on	esc[4w
Condensed print off	esc[3w
Doublestrike on	esc[4"z
Doublestrike off	esc[3"z

Elite print on	esc[2w
Elite print off	esc[1w
Enlarged print on	esc[6w
Enlarged print off	esc[5w
Italics on	esc[3m
Italics off	esc[23m
Near letter quality on	esc[2"z
Near letter quality off	esc[1"z
Shadow print on	esc[6"z
Shadow print off	esc[5"z
Subscript on	esc[4v
Subscript off	esc[3v
Superscript on	esc[2v
Superscript off	esc[1v
Underline on	esc[24m
Underline off	esc[4m
Line spacing, 6 lines per inch	esc[1z
Line spacing, 8 lines per inch	esc[0z

You should also be aware that not all of these commands may be available on your particular printer.

-- Peter Jetson

SOFTWARE ORDER FORM

Disk numbers :

Disks supplied by Amiga User Group @ $10		$
Disks supplied by member @ $2		$
Club Use Only		
Receipt #:	Mailed on: / /	**Total** $

Mail to: Amiga Users' Group, P.O. Box 109, North Balwyn, 3104.

Member's Name:

Address:

Application for membership of The Amiga Users Group

Membership is $20 per year. Make cheques payable to The Amiga Users Group, and send to:

Amiga Users Group, PO Box 109, North Balwyn, 3104

Details this side are optional

Surname: _____   Phone number: _____ STD code: _____

First name: _____ (no initials)   Year of birth: _____

Address: _____   Occupation: _____

_____ Postcode: _____   Interests: _____

Where did you hear about AUG: _____

How can AUG help you: _____

_____

_____   Dealer's Name: _____

_____   Dealer's Address: _____

Signed: _____ Date: _____   Postcode: _____

In the event of my admission as a member, I agree to abide by the rules of the Association for the time being in force.   Are you happy with your dealer: _____

Victoria College
BURWOOD CAMPUS

We are here
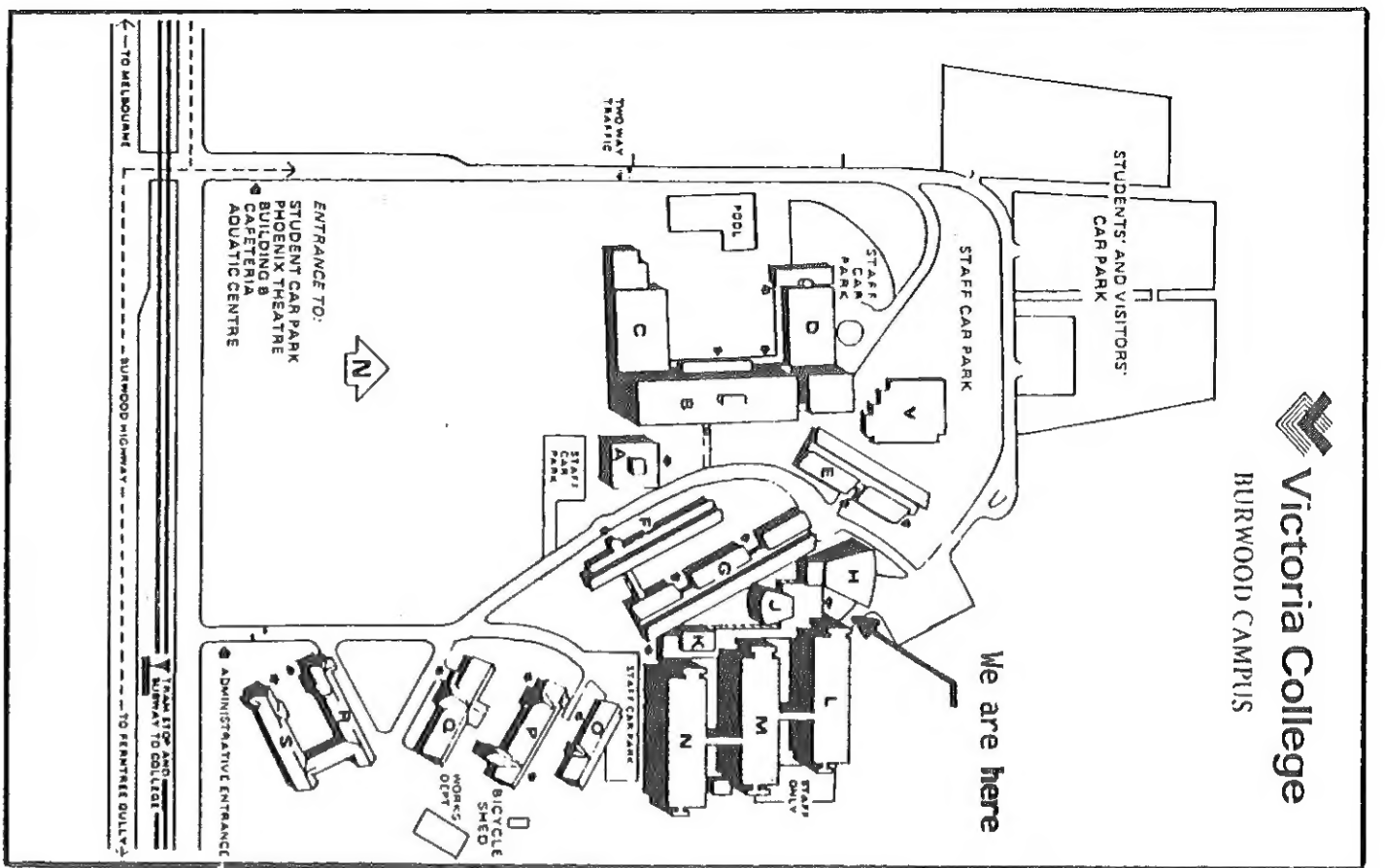
Where is Victoria College Burwood Campus?

New members and visitors sometimes have trouble locating our meeting place the first time. Victoria College is on the North side of Burwood Highway, Burwood, just East of Elgar Road. Coming from the City, turn left at the first set of traffic lights after Elgar Road. Follow the road around past the football oval, over three or four traffic bumps to the car parking areas near the netball courts. Further up the road, to the left, you'll find Lecture Theatre 2. That's us!

If you have a Melways, try Map 61 B5.

December 1986 Amiga Workbench

P.O. Box 109, North Balwyn, Victoria, Australia, 3104

AMIGA ™ Users Group

+ Member # 10297   Expires end of 11-87

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